| STUDY | CHARACTERISTICS OF SUBJECT | STUDY DESIGN | OUTCOME |
|---|---|---|---|
| **Randomised Controlled Trials** | | | |
| Nordin et al., 2021 (185) | IBS (n = 103) | Double-blind, 3-way crossover RCT comparing effect of FODMAPs (50g/day), gluten (17.3g/day) or placebo on symptoms. Controlled background diet was low in | FODMAPs triggered IBS symptoms whereas gluten and placebo had no effect. |
| Barone et al., 2020 (186) | IBS patients (n = 30) | Placebo controlled, randomised crossover study to measure the effect of gluten vs placebo challenges in people with IBS who experience symptomatic improvement on a | Gluten sensitivity occurs only in a small minority of patients without CD (19%). |
| Hajiani et al., 2019 (187) | IBS (n = 140) | Double blind RCT comparing GFD vs 'regular' diet on IBS symptoms | GFD led to significant improvements in IBS symptoms.<br><br>No information about the nature of the dietary intervention or compliance provided. |
| Elli et al., 2016 (33) | IBS patients with CD excluded and reporting gluten sensitivity (n = 98) | Multicenter double-blind placebo-RCT with crossover to assess the symptom response to blinded gluten challenge. | Gluten sensitivity occurs only in a small minority of patients without coeliac disease (14%). |
| Shahbazkhani et al., 2015 (188) | IBS (n = 148) | Double-blind, placebo RCT to measure IBS symptom response to blinded challenges using placebo or gluten in participants who achieved initial symptom improvement on a | More participants experienced symptom improvement following exposure to placebo than gluten (26% vs 84%, p < 0.001). |
| Zanini et al., 2015 (36) | NCGS participants following a GFD (n = 35) | Double blind randomised crossover study to assess participants' ability to correctly identify gluten-containing flour during blinded | Only 34% of participants could correctly identify the gluten-containing flour indicating the majority did not satisfy<br>the criteria for NCGS. |
| Biesiekierski et al., 2013 (32) | IBS patients with self-reported gluten sensitivity and coeliac disease excluded (n = | Double-blind, crossover RCT comparing the effects of a high-gluten, low-gluten and control diet on symptoms and markers of intestinal inflammation | Gluten-specific effects were observed in only 8% of participants.<br><br>No evidence of dose-dependent effects of gluten in IBS |
| Vazquez-Roque et al., 2013 (38) | IBS-D patients (n = 45) | RCT comparing GFD and gluten containing diet on bowel function and intestinal permeability | Gluten-containing diet contributed to a slight increase in stool frequency and possibly, to intestinal permeability in the small and large intestines, with effects of greater magnitude seen in HLA-DQ2/8 positive patients. |
| Biesiekierski et al., 2011 (197) | IBS (CD excluded) who improved on a GFD (n = 34) | Double-blind, placebo controlled rechallenge trial to measure the effect of gluten on GI symptoms in non-coeliac individuals | More participants in the gluten group reported inadequate control of symptoms compared to the placebo group, 68% vs 40%, p=0.0001. |
| **Reviews and Meta Analyses** | | | |
| Bellini et al., 2020 (189) | IBS | Review comparing GFD and LFD for IBS | More evidence supports the use of a LFD for IBS management. Clinical guidelines also recommend this diet. However, a LFD requires dietetic support and where this is not available (and gluten/wheat are suspected triggers) a GFD may be easier for |
| Dionne et al., 2018 (190) | IBS (11 RCTs, 508 participants) | Systematic review and meta-analysis of RCTs that examined efficacy of LFD and/or GFD in IBS | Insufficient evidence to recommend a GFD and very low quality evidence to support LFD in IBS |
| Catassi et al., 2017 (191) | IBS and NCGS | Review exploring literature in IBS and NCGS | Several components in wheat may exacerbate IBS symptoms, and this topic remains debatable. GFD may be a viable dietary treatment option in a subset of IBS patients. |
| Molina-Infante et al., 2015 (34) | 17 studies (n=1561) with NCGS | Systematic review to examine efficacy of a GFD<br>for NCGS | Considerable number of participants re-classified as coeliac disease, highlighting need for proper screening.<br><br>GFD may improve symptoms in a subset of IBS-D patients |
| Moayyedi et al., 2015 (192) | IBS (17 RCTs, 1568 participants) | Systematic review that measured the efficacy of restrictive diets in IBS patients | Only 1 study included that measured the effect of GFD on IBS symptoms. More data needed to draw conclusions re the efficacy of a GFD in IBS. |
| **Observational studies** | | | |
| Paduano et al., 2019 (193) | IBS (n = 28) | Non-randomised trial compared GFD, LFD and a 'Balanced Mediterranean diet' that included FODMAPs and gluten) on QOL and IBS symptoms | All 3 diets improved QOL and reduced IBS symptoms, but participants expressed a strong preference for the Mediterranean diet. |
| Barmeyer et al., 2017 (194) | IBS (n = 35) | Non-randomised trial that measured whether HLA-DQ2 or -DQ8 gene expression predicted NCWS in people with IBS-D following a 4 month GFD. | 34% experienced improved symptoms and QOL on GFD. No associations between genotype and response to a GFD. |
| Biesiekierski et al., 2014 (41) | Self-reported NCGS (n=147) | Cross-sectional survey. | Only 28% of participants with self-reported NCGS met the criteria for this condition. In the remainder, either coeliac disease had not been adequately excluded (62%); they experienced uncontrolled symptoms despite gluten restriction |
| Wahnschaffe et al., 2007 (196) | IBS-D (n = 41) | Non-randomised study that measured the effect of a 6 month, GFD in IBS-D | GFD reduced symptoms to levels comparable with healthy controls in 60% of HLA-DQ2 positive participants and only 12% of HLA-DQ2 negative participants. Authors concluded that CD gene expression may predict response to GFD in |